BITUMINOUS COATED CORRUGATED METAL CULVERT PIPE AND PIPE-ARCHES FIELD SECTION 1021

1021.1 Scope. To establish procedures for the inspection, acceptance, and reporting of bituminous coated corrugated metallic-coated steel culvert pipe and pipe-arches.

1021.2 Apparatus.

(a) Magnetic gauge, reading range 0-40 mils [0-1000 μm].

(b) Micrometer capable of measuring to 0.0001 in. [0.00254 mm] and accurate to within at least 0.001 in.[0.0254 mm] .

(c) Rule with suitable graduations to accurately measure the material to be inspected.

(d) Penetrating depth gauge with one nipple 0.05 in. [1.27 mm] in length and one nipple 1/8 in. [3.25 mm] in length.

1021.3 Procedure. The corrugated metallic-coated steel sheets and the fabricated pipe and pipe-arch are to be inspected and tested as described in Field Sec 1020 or 1024 of this Manual, as applicable, before coating with bituminous material.

1021.3.1 The bituminous material being used for coating is to be sampled from storage tanks or from the dipping tank. The sample is to be submitted to the Laboratory in a one-quart [one liter] friction top can, nearly full, leaving approximately 1 in. [25 mm] of space for expansion. The sample container and equipment used in sampling shall be clean, dry, and free of contaminants.

1021.3.2 After the pipe is coated, the bituminous coating depth is to be determined by use of the penetrating depth gauge. All coating depth measurements are to be taken on the inside and outside crests of pipe corrugations. The depth gauge should be pressed vertically into the bituminous coating. Use the 0.05 in. [1.27 mm] nipple for measuring all coating other than a paved invert. Use the 1/8 in. [3.25 mm] nipple to measure paved invert. The depth gauge will leave a circular indentation made by the outside diameter of the gauge when the coating is of sufficient depth. Several measurements shall be made. If the coating is found to be of insufficient depth, that length of culvert is to be rejected. If more than 25 percent of the pipe in a shipment is insufficiently coated, the entire shipment may be rejected at the option of the district Operations Engineer. Lengths of rejected coated culvert may be re-coated and presented for re-inspection.

1021.4 Report.

1021.4.1 Samples of corrugated metallic-coated steel culvert pipe and pipe-arches are to be submitted to the Laboratory using the same forms and procedures as shown in Field Sec 1020 or 1024 of this Manual, as applicable.

1021.4.2 Form T-617 shall be used as an identification sheet when submitting samples of the bituminous material to the Laboratory.

1021.4.3 Inspection reports of fabricated and coated pipe and pipe-arches shall be made on Form T-715, adapted to include the coating lot designation. The report is to indicate acceptance or rejection. If the report indicates rejection, the reason for rejection shall be stated in the body of the report. If the report indicates acceptance, the basis of acceptance of corrugated metallic-coated steel culvert pipe and pipe-arches, except when based exclusively on results of Laboratory tests, shall be stated in the body of Form T-715 as follows:

"Based on the approved brand and an examination of the material, we believe the material conforms to the requirements of the specifications. Fabrication is satisfactory. Material represented accepted."

The basis of acceptance of corrugated aluminum alloy metal shall be stated in the body of Form T-715 as follows:

"Based on the attached certification and an examination of the material, we believe the material conforms to the requirements of the specifications. Fabrication is satisfactory. Material represented accepted."

The report shall include a reference, by Laboratory number, to the approval of the bituminous material and a statement that the coating thickness was satisfactory. Distribution is to be per Class A in General Sec 7.1.7.1.

Distribution of reports for materials purchased under a Department purchase order is to be as described in Field Sec 2001 of this Manual.